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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/696,896

10/29/2003

Joon Young Jung

51876P396

9271

8791

7590

12/01/2004

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EXAMINER

STOCK JR, GORDON J

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/696,896

Applicant(s)

JUNG ET AL.

Examiner

Gordon J Stock

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claims 2-3** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As for **claim 2**, the term “compensation means” is indefinite, for it is unclear as to what constitutes compensation means for in the disclosure compensation steps are mentioned without appropriate means for accomplishing the steps (page 10 lines 5-27; page 11 lines 1-5). **Claim 3** is rejected for being dependent on rejected base claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1 and 4** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kogan et al. (6,504,611)** in view of **Tayebati (6,041,071)**.

As for **claims 1 and 4**, Kogan in a two stage alignment device discloses the following: a first light source of visible light (Fig. 1: 24); a second light source that has infra red wavelengths (Fig. 1: 16); a stage (Fig. 1: 2, 4, 6, 8, 10) with micrometer precision (col. 1, lines 50-55); an optical alignment confirming means, image information acquiring means, and control means

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wherein the detector, the CCD camera and the optical measurement device, performs optical alignment with the light outputted from the first light source or the second light source (Fig. 1: 20, 48, and 50).

As for a lensed fiber, Kogan is silent. However, he states that the element being aligned of Fig. 1: 12 may be an optical element with an opening transparent to light having a wavelength outside of the visible light range such as a vertical cavity semiconductor laser (col. 3, lines 10-15). Tayebati in a narrow linewidth semiconductor laser teaches that lensed fibers comprise vertical cavity laser systems (Fig. 1). Therefore, it would be obvious to one skilled in the art at the time the invention was made that a lensed fiber was used for vertical cavity laser comprise lensed fibers.

5. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Kogan et al. (6,504,611)** in view of **Tayebati (6,041,071)** further in view of **Song et al. (5,926,594)**.

As for **claim 6**, Kogan in view of Tayebati disclose everything as above (see **claim 1**). Kogan discloses alignment in x, y, and z directions (Fig. 1: 4, 6, 8). He is silent about a theta movement. Song in an alignment system teaches alignment means comprising x, y, z and theta (Fig. 1: 48, 50). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to have the micrometer move in the x, y, z, directions, and theta to give more precise alignment through having more degrees of freedom.

6. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Kogan et al. (6,504,611)** in view of **Tayebati (6,041,071)** further in view of **McCoy et al. (5,838,450)**.

As for **claim 5**, Kogan in a two stage optical alignment device and method of aligning optical components discloses: aligning light outputted from a visible light source with an active

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area of detector, a CCD camera with a registration coordinate system; inputting light outputted from the visible light source into the detector through an optical coupler (Fig. 1: 20, 22, 24, 30, and 12); visually confirming part of the active area of the detector the light transmitted and providing image information, which shows an extent of optical alignment provided to the CCD to a control circuit unit; controlling the stage to perform alignment using the image information; and performing optical alignment between the optical component and the active area of the CCD camera by operating the stage under control of the control circuit unit (col. 3, lines 30-55; col. 4, lines 30-65). As for a micrometer stage, the stage has micrometer precision (col. 1, lines 50-55).

As for a microscope, Kogan is silent, but he states that any suitable semiconductor-imaging device may be used (col. 2, lines 45-50). McCoy in a wafer alignment system teaches using a CCD with a microscope as an imaging system for wafers (col. 4, lines 55-65). Therefore, it would be obvious to one skilled in the art to have the CCD camera comprise a microscope, for wafer imaging systems comprise CCD detectors with a microscope.

As for a lensed fiber, Kogan is silent. However, he states that the element being aligned of Fig. 1: 12 may be an optical element with an opening transparent to light having a wavelength outside of the visible light range such as a vertical cavity semiconductor laser (col. 3, lines 10-15). Tayebati in a narrow linewidth semiconductor laser teaches that lensed fibers comprise vertical cavity laser systems (Fig. 1). Therefore, it would be obvious to one skilled in the art at the time the invention was made that a lensed fiber was used for vertical cavity laser comprise lensed fibers.

Lastly, the visible light is reflected by the optical component (see Fig. 1), but Kogan teaches that non-infrared light may be used to transmit light through the optical components (col.

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5, lines 15-27). Therefore, it would be obvious to one skilled in the art that a visible light source may be used in the system to transmit light through the optical components rather than infrared wavelengths, for noninfrared wavelength sources such as visible light sources may be utilized for alignment via light transmission through the optical components.

Allowable Subject Matter

7. **Claims 2-3** would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

As to **claim 2**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in an optical alignment apparatus using visible light source and images the particular compensation and optical intensity supervising means, in combination with the rest of the limitations of **claims 2-3**.

Response to Arguments

8. Applicant's arguments filed September 7, 2004 have been fully considered but they are not persuasive. Specifically, as for Kogan utilizing two steps rather than one (page 7 paragraph 2 of Remarks), **claim 1** as written does not preclude the two steps for the micrometer stage aligns light from the first light source or the second light source; and the lensed fiber and an optical alignment confirming means uses light that does not preclude infrared light. And the term "to perform optical alignment" with the first light source is an intended use. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex Parte Masham, 2 USPQ F.2d 1647 (1987). As for alignment in x, y,

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and z directions, Examiner agrees, but see rejection of claim 6 above. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., power monitor) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Again, with the arguments of claim 1 and 6 in regards to the x, y, z and tilt (page 8 paragraph 1 of Remarks), see rejection of claim 6 above.

As for the arguments in regards to **claim 5** (page 9 of Remarks): in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., x, y, z and tilt directions) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

As for the new rejection of **claim 2** under 35 U.S.C. 112 second paragraph, Examiner apologizes for the inconvenience, but upon further consideration the rejection was made.

Fax/Telephone Numbers

If the applicant wishes to send a fax dealing with either a proposed amendment or a discussion with a phone interview, then the fax should:

- 1) Contain either a statement "DRAFT" or "PROPOSED AMENDMENT" on the fax cover sheet; and
- 2) Should be unsigned by the attorney or agent.

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This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

Papers related to the application may be submitted to Group 2800 by Fax transmission. Papers should be faxed to Group 2800 via the PTO Fax machine located in Crystal Plaza 4. The form of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Machine number is: (703) 872-9306

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon J. Stock whose telephone number is (571) 272-2431.

The examiner can normally be reached on Monday-Friday, 10:00 a.m. - 6:30 p.m.

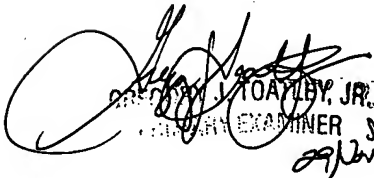
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr., can be reached at 571-272-2800 ext 77.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private Pair system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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November 28, 2004


GREGORY J. TOATLEY, JR.
SENIOR EXAMINER SPE 277
29 Nov 04